

Serial No.: 10/777,343
Docket No.: ECV-5622CON
Amendment dated November 3, 2005
Responsive to Office Action dated September 6, 2005

Amendments to the Claims:

The following is a complete listing of the claims and the status of each:

1. (Currently amended) A method of implanting an annuloplasty ring in a heart valve
5 annulus, comprising:

providing a resilient annuloplasty ring having a contracted relaxed diameter;
stretching the annuloplasty ring to an expanded diameter commensurate with the
diameter of a dilated heart valve annulus;

positioning the annuloplasty ring within the heart valve annulus;

10 maintaining the annuloplasty ring at its expanded diameter while attaching the
annuloplasty ring to the dilated heart valve annulus by using an attachment device to
physically connect the annuloplasty ring to the annulus; and

permitting the annuloplasty ring to contract inward from its expanded diameter so
as to decrease the size of the attached heart valve annulus.

15 2. (Previously presented) The method of claim 1, wherein the resilient annuloplasty
ring comprises a resilient inner sizing member and an outer attachment sheath enclosing the sizing
member.

20 3. (Original) The method of claim 2, wherein the attachment device comprises a
plurality of members positioned on the annuloplasty ring.

4. (Currently amended) The method of claim 3, wherein the plurality of members is
selected from the group consisting of:

25 needles,

barbs, and

hooks.

Serial No.: 10/777,343
Docket No.: ECV-5622CON
Amendment dated November 3, 2005
Responsive to Office Action dated September 6, 2005

~~— needles;~~
~~— barbs; and~~
~~— hooks.~~

5 5. (Currently amended) The method of claim 3, wherein the material of the plurality of members is selected from the group consisting of:

stainless steel
titanium, and
a nickel-titanium alloy.

10 ~~— stainless steel;~~
~~— titanium; and~~
~~— a nickel-titanium alloy.~~

15 6. (Original) The method of claim 2, wherein the attachment device comprises at least one suture, and wherein the step of attaching the annuloplasty ring to the dilated heart valve annulus comprises passing the suture through the attachment sheath and through the heart valve annulus.

20 7. (Currently amended) The method of claim 2, wherein said outer attachment sheath is selected from the group consisting of:

biologically compatible fabric mesh,
polyethylene terephthalate,
polyester knit,
PTFE knit, and
25 ePTFE knit.

~~— biologically compatible fabric mesh;~~
~~— polyethylene terephthalate;~~

Serial No.: 10/777,343
Docket No.: ECV-5622CON
Amendment dated November 3, 2005
Responsive to Office Action dated September 6, 2005

~~polyester knit;~~
~~PTFE knit; and~~
~~ePTFE knit.~~

5 8. (Original) The method of claim 2, wherein said outer attachment sheath comprises
a medicament to induce tissue growth.

9. (Currently amended) The method of claim 1, wherein the annuloplasty ring further
includes a resilient sizing member having a relaxed diameter, and wherein the method further
10 comprises limiting contraction of the annuloplasty ring to a contracted diameter that is larger than
the relaxed diameter of the resilient sizing member.

10. (Currently amended) The method of claim 9, wherein the annuloplasty ring
includes ~~a resilient inner sizing member~~ and a series of support members positioned on the ~~inner~~
15 sizing member, and wherein the step of limiting contraction is accomplished by engagement of the
support members with one another.

11. (Previously presented) The method of claim 10, wherein each support member
comprises a body member having a lumen formed therein, said lumen being capable of receiving
20 the sizing member therein.

12. (Currently amended) The method of claim 2, wherein said resilient ~~inner~~ sizing
member comprises a biologically compatible elastomer.

25 13. (Original) The method of claim 1, wherein the step of maintaining the annuloplasty
ring at its expanded diameter comprises positioning the annuloplasty ring on an insertion device.

Serial No.: 10/777,343
Docket No.: ECV-5622CON
Amendment dated November 3, 2005
Responsive to Office Action dated September 6, 2005

14. (Previously presented) The method of claim 13, wherein the annuloplasty ring is positioned on the insertion device at the time of manufacture.

5 15. (Previously presented) The method of claim 13, wherein the annuloplasty ring is positioned on the insertion device immediately prior to implantation.

16. (Currently amended) A method of implanting a self-molding annuloplasty ring in a heart valve annulus, comprising:

10 providing a resilient annuloplasty ring having a contracted ~~relaxed~~ diameter, the annuloplasty ring including a resilient inner sizing member having a relaxed diameter and an outer attachment sheath;

stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

15 positioning the expanded annuloplasty ring on an insertion device;
delivering the insertion device and expanded annuloplasty ring to the dilated heart valve annulus;

positioning the annuloplasty ring within the heart valve annulus;

attaching the annuloplasty ring to the dilated heart valve annulus by using an attachment device to physically connect the attachment sheath to the annulus; and

20 removing the insertion device so as to permit the annuloplasty ring to contract inward from its expanded diameter and decrease the size of the attached heart valve annulus.

25 17. (Canceled)

18. (Previously presented) The method of claim 16, wherein the attachment device comprises a plurality of members positioned on the annuloplasty ring.

Serial No.: 10/777,343
Docket No.: ECV-5622CON
Amendment dated November 3, 2005
Responsive to Office Action dated September 6, 2005

19. (Currently amended) The method of claim 18, wherein the plurality of members is selected from the group consisting of:

needles,

5 barbs, and

hooks.

~~— needles;~~

~~— barbs; and~~

~~hooks.~~

10

20. (Currently amended) The method of claim 18, wherein the material of the plurality of members is selected from the group consisting of:

stainless steel,

titanium, and

15 a nickel-titanium alloy.

~~— stainless steel;~~

~~— titanium; and~~

~~a nickel-titanium alloy.~~

20 21. (Previously presented) The method of claim 16, wherein the attachment device comprises at least one suture, and wherein the step of attaching the annuloplasty ring to the dilated heart valve annulus comprises passing the suture through the attachment sheath and through the heart valve annulus.

25 22. (Currently amended) The method of claim 16, wherein said outer attachment sheath is selected from the group consisting of:

biologically compatible fabric mesh.

Serial No.: 10/777,343
Docket No.: ECV-5622CON
Amendment dated November 3, 2005
Responsive to Office Action dated September 6, 2005

polyethylene terephthalate.

polyester knit.

PTFE knit, and

ePTFE knit.

5 ~~biologically compatible fabric mesh;~~
~~polyethylene terephthalate;~~
~~polyester knit;~~
~~PTFE knit; and~~
~~ePTFE knit.~~

10

23. (Previously presented) The method of claim 16, wherein said outer attachment sheath comprises a medicament to induce tissue growth.

24. (Currently amended) The method of claim 16, wherein the method further
15 comprises limiting contraction of the annuloplasty ring to a contracted diameter that is larger than the relaxed diameter of the inner sizing member.

25. (Previously presented) The method of claim 24, wherein the annuloplasty ring further includes a series of support members positioned on the inner sizing member, and wherein
20 the step of limiting contraction is accomplished by engagement of the support members with one another.

26. (Previously presented) The method of claim 25, wherein each support member comprises a body member having a lumen formed therein, said lumen being capable of receiving the sizing member therein.

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27. (Previously presented) The method of claim 16, wherein said resilient inner sizing member comprises a biologically compatible elastomer.

Serial No.: 10/777,343
Docket No.: ECV-5622CON
Amendment dated November 3, 2005
Responsive to Office Action dated September 6, 2005

28. (Previously presented) The method of claim 16, wherein the annuloplasty ring is positioned on the insertion device at the time of manufacture.

5 29. (Previously presented) The method of claim 16, wherein the annuloplasty ring is positioned on the insertion device immediately prior to implantation.

30. (Currently amended) A method of implanting an annuloplasty ring in a heart valve annulus, comprising:

10 providing a resilient annuloplasty ring having a contracted ~~relaxed~~ diameter and a resilient sizing member having a relaxed diameter;

stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

positioning the annuloplasty ring within the heart valve annulus;

15 maintaining the annuloplasty ring at its expanded diameter while attaching the annuloplasty ring to the dilated heart valve annulus;

permitting the annuloplasty ring to contract inward from its expanded diameter so as to decrease the size of the attached heart valve annulus; and

20 limiting contraction of the annuloplasty ring to a contracted diameter that is larger than the relaxed diameter of the sizing member.

31. (Currently amended) The method of claim 30, wherein the annuloplasty ring includes a ~~resilient inner sizing member~~ and a series of support members positioned on the ~~inner~~ sizing member, and wherein the step of limiting contraction is accomplished by engagement of the
25 support members with one another.

Serial No.: 10/777,343
Docket No.: ECV-5622CON
Amendment dated November 3, 2005
Responsive to Office Action dated September 6, 2005

32. (Previously presented) The method of claim 31, wherein each support member comprises a body member having a lumen formed therein, said lumen being capable of receiving the sizing member therein.

5 33. (Currently amended) A method of implanting an annuloplasty ring in a heart valve annulus, comprising:

providing a resilient annuloplasty ring having a contracted ~~relaxed~~ diameter;
stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

10 positioning the annuloplasty ring within the heart valve annulus;

maintaining the annuloplasty ring at its expanded diameter while attaching the annuloplasty ring to the dilated heart valve annulus, wherein the annuloplasty ring is maintained at its expanded diameter by positioning the annuloplasty ring on an insertion device at the time of manufacture; and

15 permitting the annuloplasty ring to contract inward from its expanded diameter so as to decrease the size of the attached heart valve annulus.

34. (Currently amended) A method of implanting an annuloplasty ring in a heart valve annulus, comprising:

20 providing a resilient annuloplasty ring having a contracted ~~relaxed~~ diameter;
stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

positioning the annuloplasty ring within the heart valve annulus;

25 maintaining the annuloplasty ring at its expanded diameter while attaching the annuloplasty ring to the dilated heart valve annulus, wherein the annuloplasty ring is maintained at its expanded diameter by positioning the annuloplasty ring on an insertion device immediately prior to implantation; and

Serial No.: 10/777,343

Docket No.: ECV-5622CON

Amendment dated November 3, 2005

Responsive to Office Action dated September 6, 2005

permitting the annuloplasty ring to contract inward from its expanded diameter so as to decrease the size of the attached heart valve annulus.

35. (Currently amended) A method of implanting a self-molding annuloplasty ring in a heart valve annulus, comprising:

providing a resilient annuloplasty ring having a contracted relaxed diameter, the annuloplasty ring including a resilient inner sizing member and an outer attachment sheath, wherein said outer attachment sheath is selected from the group consisting of:

biologically compatible fabric mesh,

10 polyethylene terephthalate,

polyester knit,

PTFE knit, and

ePTFE knit;

~~biologically compatible fabric mesh;~~

15 ~~polyethylene terephthalate;~~

~~polyester knit;~~

~~PTFE knit; and~~

~~ePTFE knit;~~

20 stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

positioning the expanded annuloplasty ring on an insertion device;

delivering the insertion device and expanded annuloplasty ring to the dilated heart valve annulus;

positioning the annuloplasty ring within the heart valve annulus;

25 attaching the annuloplasty ring to the dilated heart valve annulus; and

Serial No.: 10/777,343
Docket No.: ECV-5622CON
Amendment dated November 3, 2005
Responsive to Office Action dated September 6, 2005

removing the insertion device so as to permit the annuloplasty ring to contract inward from its expanded diameter and decrease the size of the attached heart valve annulus.

5 36. (Currently amended) A method of implanting a self-molding annuloplasty ring in a heart valve annulus, comprising:

 providing a resilient annuloplasty ring having a contracted ~~relaxed~~ diameter, the annuloplasty ring including a resilient inner sizing member and an outer attachment sheath, wherein said outer attachment sheath comprises a medicament to induce tissue growth;

10 stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

 positioning the expanded annuloplasty ring on an insertion device;

 delivering the insertion device and expanded annuloplasty ring to the dilated heart valve annulus;

15 positioning the annuloplasty ring within the heart valve annulus;

 attaching the annuloplasty ring to the dilated heart valve annulus; and

 removing the insertion device so as to permit the annuloplasty ring to contract inward from its expanded diameter and decrease the size of the attached heart valve annulus.

20 37. (Currently amended) A method of implanting a self-molding annuloplasty ring in a heart valve annulus, comprising:

 providing a resilient annuloplasty ring having a contracted ~~relaxed~~ diameter, the annuloplasty ring including a resilient inner sizing member having a relaxed diameter and an outer attachment sheath;

25 stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

Serial No.: 10/777,343
Docket No.: ECV-5622CON
Amendment dated November 3, 2005
Responsive to Office Action dated September 6, 2005

positioning the expanded annuloplasty ring on an insertion device;
delivering the insertion device and expanded annuloplasty ring to the dilated heart
valve annulus;

positioning the annuloplasty ring within the heart valve annulus;

5 attaching the annuloplasty ring to the dilated heart valve annulus;

removing the insertion device so as to permit the annuloplasty ring to contract
inward from its expanded diameter and decrease the size of the attached heart valve
annulus; and

10 limiting contraction of the annuloplasty ring to a contracted diameter that is larger
than the relaxed diameter of the inner sizing member.

38. (Previously presented) The method of claim 37, wherein the annuloplasty ring
further includes a series of support members positioned on the inner sizing member, and wherein
the step of limiting contraction is accomplished by engagement of the support members with one
15 another.

39. (Previously presented) The method of claim 38, wherein each support member
comprises a body member having a lumen formed therein, said lumen being capable of receiving
the sizing member therein.

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40. (Currently amended) A method of implanting a self-molding annuloplasty ring in a
heart valve annulus, comprising:

providing a resilient annuloplasty ring having a contracted ~~relaxed~~ diameter, the
annuloplasty ring including a resilient inner sizing member comprising a biologically
25 compatible elastomer and an outer attachment sheath;

stretching the annuloplasty ring to an expanded diameter commensurate with the
diameter of a dilated heart valve annulus;

Serial No.: 10/777,343
Docket No.: ECV-5622CON
Amendment dated November 3, 2005
Responsive to Office Action dated September 6, 2005

positioning the expanded annuloplasty ring on an insertion device;
delivering the insertion device and expanded annuloplasty ring to the dilated heart
valve annulus;

positioning the annuloplasty ring within the heart valve annulus;

5 attaching the annuloplasty ring to the dilated heart valve annulus; and
removing the insertion device so as to permit the annuloplasty ring to contract
inward from its expanded diameter and decrease the size of the attached heart valve
annulus.

10 41. (Currently amended) A method of implanting a self-molding annuloplasty ring in a
heart valve annulus, comprising:

providing a resilient annuloplasty ring having a contracted relaxed diameter, the
annuloplasty ring including a resilient inner sizing member and an outer attachment sheath;
stretching the annuloplasty ring to an expanded diameter commensurate with the
15 diameter of a dilated heart valve annulus;

positioning the expanded annuloplasty ring on an insertion device at the time of
manufacture;

delivering the insertion device and expanded annuloplasty ring to the dilated heart
valve annulus;

20 positioning the annuloplasty ring within the heart valve annulus;

attaching the annuloplasty ring to the dilated heart valve annulus; and
removing the insertion device so as to permit the annuloplasty ring to contract
inward from its expanded diameter and decrease the size of the attached heart valve
annulus.

25 42. (Currently amended) A method of implanting a self-molding annuloplasty ring in a
heart valve annulus, comprising:

Serial No.: 10/777,343
Docket No.: ECV-5622CON
Amendment dated November 3, 2005
Responsive to Office Action dated September 6, 2005

providing a resilient annuloplasty ring having a contracted ~~relaxed~~ diameter, the annuloplasty ring including a resilient inner sizing member and an outer attachment sheath;
stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;
5 positioning the expanded annuloplasty ring on an insertion device immediately prior to implantation;
delivering the insertion device and expanded annuloplasty ring to the dilated heart valve annulus;
positioning the annuloplasty ring within the heart valve annulus;
10 attaching the annuloplasty ring to the dilated heart valve annulus; and
removing the insertion device so as to permit the annuloplasty ring to contract inward from its expanded diameter and decrease the size of the attached heart valve annulus.